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The Evolution of Tax Morale in Turkey*

Türkiye'de Vergi Ahlakının Dönüşümü

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ABSTRACT

The aim of the study is to examine the evolution of tax morale in Turkey within a 22-year period. The data obtained from the World Values Survey were evaluated in the Stata 13 statistics package program. As a result of the analyses through ordered probit models, it was observed that the level of tax morale had changed over the course of time. Tax morale level was lower between 2007 and 2012 than in the year 1990. In addition, the research findings indicate that levels of confidence in bureaucracy and financial satisfaction levels have an effect on tax morale. According to estimated results, confidence in the government, as well as the importance of religion and national pride, all have a significantly positive effect on tax morale. The results of the study show that governments and policy makers must pay more attention to the tax morale issue in order to increase tax revenues along with tax compliance.

Keywords: Tax morale, tax compliance, Turkey, World Values Survey, ordered probit model

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1. Introduction

It has been generally observed that all communities have tried to create a more organized structure in order to promote social welfare independent from historical processes and geography. As a result of this tendency states have undertaken various duties according to their conditions and social needs. States need revenues so as to realize these sui generis duties (Akdoğan, 2009). Taxes play a significant part in generating revenue resources for the state. For this reason, the taxation issue has been one of the most significant matters of debate throughout history and it is thought that it will maintain its importance in the near future.

In the framework of traditional public finance theory, the mandatory nature of taxes becomes prominent. In this context, there are many studies in the literature which focus on examining the role of the states to prevent tax evasion as a result of their sovereign rights. However it is observed that scholars do not attach adequate importance to voluntary tax compliance which is one of the important determinants of tax revenue. Furthermore, studies in this regard are limited. But the promotion of voluntarily compliance to taxes for individuals is a significant opportunity to remove the financial deficits of the public sector particularly in developing countries.

Tax compliance-oriented studies centre on tax morale and research into the tax payment willingness of taxpayers. Studies based on tax coercion concentrate on the effect of auditing and on types of punishment to be issued to taxpayers who underpay. However the field observations indicate that deterrence models are not sufficient since they claim that taxes are paid in order to avoid being caught and punished.

One of the general conclusions of the research found in the related literature is that tax morale – as an inner motivation pushing individuals to conform with the laws- is more efficient than deterrent measures of the administration to increase the willingness of people to pay taxes. Therefore, realizing the significance of tax morale as a driving force behind voluntary compliance has great importance for taxation administration. Designing an efficient and fair tax system that increases the social welfare agreed upon by both the administration and taxpayers becomes possible when focused on these components.

This study concentrates on the elements shaping tax morale in order to fill the gaps in the literature. In this context, the determinants of tax morale in Turkey will be studied and the transformation of these factors within the historical process will be examined. The purpose of the study is to present to the Turkish tax administration an alternative path while building tax policies and laws. Due to the competence of our chosen methodology and of the data set of the current World Values Survey (WVS), it is thought that the study will make a unique scientific contribution.

In the literature, there are studies referring to WVS which research the determinants of tax morale. However, all of these limited studies only focus on a single wave of the survey with a static analysis technique. In this regard, it should be emphasized that after the publication of the aforementioned studies more recent data sets have been released for researchers. For Turkey, three waves of WVS will be used simultaneously for the first time in this study. Therefore, the evolution within time will be analyzed within the scope of this unique econometric model.

The study consists of six parts. In the following section, basic concepts and descriptions in the field will be described. In the third part, the theoretical evolution of tax compliance will be explained. Research methods and relevant literature will be shared in the fourth part. In the fifth part, tax morale determinants and evolution of tax compliance in Turkey will be analyzed. In the final section, overall evaluations will be given .

2. Basic Concepts

In this section, the concepts of tax compliance and tax morale are defined as the basic concepts.

2.1. Tax Compliance

Taxes, gathered from both individuals and institutions forcibly and unrequitedly, within the sovereignty rights based on the law so as to meet public needs, are the main source of finance to the state in order to maintain its economic functions (Eker & Bülbül, 2013). Taxes have critical importance as a major source of income, and as a fiscal policy tool they are also important for other economic agents due to their impact on personal disposable income and relative prices. In this sense, formulating an efficient and fair tax system for the maximization of social prosperity is an obligation (Genç & Yaşar, 2009). At this point one should mention the close relation between an efficient and fair tax system and tax compliance. This is because one of the determinants of tax compliance is tax management; that is to say, a precisely running tax system (Tunçer, 2002).

Taxpaying is one of the fundamental duties assigned to individuals within the context of modern citizenship so as to provide financing for public expenditures. In this regard, citizens are expected to fulfill their taxative responsibilities in accordance with the law and be compatible with taxes (Kirchler, Hoelzl, & Wahl, 2008). Voluntary tax compliance is the compatible behaviour – without any coercive practice – of individuals and other taxable elements with the letter and spirit of tax laws and tax administration (James & Alley, 2002). In other words, it is possible to describe tax compliance as taxpayers' exact and timely fulfillment of their tax obligations. In a broader sense, tax compliance is the payment that is made within the scope of current tax laws, regulations and judicial decisions by declaring all the incomes of taxpayers (Alm, 1991).

The problem of tax noncompliance occurs simultaneously with the tax concept. Any researcher trying to write about the history of taxation first has to include the concept of tax noncompliance (Sandmo, 2005). The description of tax noncompliance, comprehending its extent and dimensions, and eventually reducing it to a minimum level is one of the foremost goals of the all political organizations independent from time and geography. Tax compliance is a notion that interests all communities and cultures without any relation to levels of development (Andreoni, Erard, & Feinstein, 1998).

When the literature is examined, two types of tax noncompliance can be seen, namely, tax evasion and tax avoidance. It is possible to define tax evasion and tax avoidance as deviations from what is legal, fair and reasonable. These two types of noncompliance are frequently realized at the same time and cause losses in tax revenues. On the other hand, they differ from each other in terms of compatibility with the laws (Deak, 2004). Tax evasion denotes the neglect of tax laws and other regulations by means of not fully or partly realizing tax duties by taxpayers. In this way, individuals contribute to tax loss by pursuing illegal ways. At this point, illegality is not related with the taxable event but with the selected way in which the payment of tax is either not made at all or made only in part (Savaşan & Odabaş, 2005). Tax avoidance can be defined as taxpayers' efforts to avoid or reduce their tax burden by allowing the taxable event to occur without any violation of law (Akdoğan, 2009). In the final analysis, tax evasion can be defined as reducing tax payments by following illegal ways, whereas tax avoidance means reducing tax payments using legal methods.

The results concluded in most of the studies in the literature show that, in many countries, the real tax compliance level of individuals is over theoretical estimations derived within the context of available tax, punishment and auditing rates. In other words, taxpayers have a lesser tendency towards tax evasion and avoidance than expected (see Alm, 1999 and Torgler, 2002). At this point,

it is possible to conclude that tax morale is the driving power behind individuals' payment of their taxes (Torgler & Schneider, 2005).

2.2. Tax Morale

The concept of tax morale can be defined as the inner motivation towards taxpaying (Torgler & Schaltegger, 2006). This motivation comes from the individiuals' belief that they can contribute to society by paying tax (Lisi & Pugno, 2011). In other words, tax morale is the moral principle of individuals or personal values related with individuals' behaviour about taxpaying (Torgler & Murphy, 2004). In this context, tax morale can be interpreted as the non-monetary motivation on behalf of tax compliance. The aforesaid motivation, for instance, can be individuals' inner motivations towards taxpaying, a feeling of guilt and embarrassment when being incompatible with the tax, benefits given by the state in return for their taxpayings and the effect of social environments on individuals (Luttmer & Singhal, 2014).

The concept of tax morale is also closely related with that of tax ethics. Song and Yarbrough (1978), defining the concept of tax ethics as the behaviour norm leading citizens to be a taxpayer in their relationship with the govenrment, stressed that these norms have a remarkable effect on tax compliance attitude. Similarly, Wenzel (2005) points out that individuals who believe in the obligation of behaving honestly over the issue of tax have higher levels of tax morale.

As mentioned above, there is no clear distinction between tax compliance, tax morale and tax ethics. When these articulated terms are examined integratedly, they present a clearer picture. Indeed, this distinction in tax compliance research is the main element that leads to the concept of tax morale becoming more prominent.

For this reason, the dynamics of tax compliance, which are among the key concepts of the afore-mentioned terms, will be examined, and how tax compliance differs will be discussed. At this point, as the study heads towards the aforesaid discussion, it is predicted that it will pave the way for a more comprehensive research related to the main focus of the study. Tax compliance research appears and draws attention pro tanto away from moral approach. For this reason, it is initially vital to discover a traditional tax compliance approach in order to internalize tax morale.

3. The Development of Tax Compliance Approach

It is possible to categorize tax compliance studies within the context of two approaches in the literature. The first one, the pioneer in the field, is the Allingham-Sandmo Approach (ASA). This approach, accepted as a standard approach, is based on the study of the year 1972 and focused on auditing-punishment issues. The second approach in the field is a behavioral featured moral-oriented frame ecole that appeared in the literature later. This ecole emphasizes psychological and sociological characteristics so as to remove the deficiencies in the standard approach.

3.1. The Allingham-Sandmo Approach

This research, starting from Gary S. Becker's economics of crime model within the context of Michael G. Allingham and Agnar Sandmo's neoclassical approach, comes under deterrence-oriented studies (Alm & Martinez-Vazquez, 2007). In Allingham and Sandmo's analysis (1972), taxpayers are seen to be rational, and their choices are compatible with the 'decision-making under uncertainty' axioms of John von Neumann and Oskar Morgenstern (1944). They also try to maximize the taxable incomes. The taxpayer, within the context of this approach, is a homo economicus who optimizes between the benefits and costs of complying with the tax. In this respect,

it is possible to discover the benefits for an individual who pays less or none of the tax – when there is no auditing nor unconformity with the auditing- rather than an individual who pays the tax honestly. When any noncompliance is identified, a reverse situation can be observed (Kirchler, et al., 2008).

Within the scope of neoclassical public economics theory, it is supposed that the rational individual will not take part in the financing of public goods by displaying a free-rider attitude (Stiglitz, 2000). For this reason, governments try to make deterrent policies as they push citizens to fully realize their tax duties (Torgler & Schaltegger, 2006). In this respect, many economists designate deterrent-oriented theoric models in the literature. It is an approach developed by the pioneers Allingham and Sandmo within the context of the utility theory of these models. Within the context of this approach it is possible to observe the study's effects both over the research reflections on the economy of crime-characterized activities by Becker (1968) and Tulkens and Jacquemin (1971) and the study of indeterminate economy by Arrow (1970) and Mossin (1968. The effects of tax compliance on higher tax rates are basically researched within the scope of ASA and the relationships among tax evasion, auditing probability and punsihment degree are scrutinized within this context (Andreoni, et al., 1998).

According to ASA, the first behaviour to research is tax evasion so as to analyze the relation between taxation and taxpayers' risk-taking decisions. The authors put emphasis on the difficulty of a general analysis as tax evasion has many forms and for this reason, they shaped their studies within a limited framework. In their fictional model these researchers analyze the tax evasion decisions of taxpayers that consciously underdeclare it.

Decicions regarding tax declaration are unclear within the scope of ASA. The reason behind this is that a taxpayer who does not declare all income is not automatically punished by tax administration. The taxpayer can make a choice between two basic strategies: a) Declaring real income, and b) declaring less income than the real one. When the second strategy is preferred, taxpayer's gain will depend on the auditing by tax administration. If there is no auditing, the individual will get the better of her/his situation. However, the taxpayer is likely to face a worse situation if auditing takes place. In this regard, individuals need to determine correct strategies in order to obtain optimal benefit.

ASA points out that decisions related to the tax liabilities of individuals are only shaped within the frame of economical factors (Tosuner & Demir, 2007). In order to test this claim, many empirical analyses are made in the literature. The cumulative result of the research is that ASA is not sufficient to explain the high compliance level in real life (Lisi & Pugno 2011). Torgler (2003b), Graetz and Wilde (1985), Alm et al. (1992) and Frey and Feld (2002) are thus among the main authors criticizing ASA.

The majority of economic analyses on tax evasion aim to research the effects of the various legal and economic practices over taxpayer behaviours and the theoric and empirical side of these effects. However, all these studies neglect the taxpayer's attitude of tax morale which is one of the main determinants of tax compliance (Eisenhaur, 2008). When the economics of crime and particularly of income tax crime are examined, it is observed that there is a de facto attitude against a rational, risk-averse and immoral individual. In other words, standard theory accepts decision-making individuals as the ones who are affected by economic stimulus and who abandon committing crime in case of being caught or because of the risk of punishment. They are the people who do not have any moral good or bad preference unless they face the risk of being caught. However, many researchers have questioned the transmitted tendency in recent years. The

number of scholars, presenting opposite alternatives against the one evaluating the individuals as the immoral actors who try to maximize the expected benefit, are gradually increasing (Eisenhauer, Geide-Stevenson, & Ferro, 2011).

3.2. Tax-Morale Oriented Approach

The concept of tax morale in literature is developed in order to solve the complexity of tax compliance. To be clear, it is possible to explain experienced tax compliance within the context of this concept despite low deterrence rates in many countries (Slemrod, 2007). Despite low auditing rates and punishments, experiencing limited levels of tax evasion attracts many scholars' and experts' attention. Likewise, the deterrence-oriented models, centering upon auditing and punishment, presuppose a low tax compliance tendency and high tax evasions within the frame of transmitted restraints (Torgler, 2007). However, the perspective of morale-oriented tax compliance offers useful instruments to explain pointed tendencies as it is not only based on rational individual presupposition.

According to the morale-centered approach, an individual is not just an independent agent trying to maximize utility. It is possible to describe an individual as the person communicating with social norms, answering social norms and an agent who has sui generis attitudes and beliefs within the context of this approach. Therefore, the taxpayer's attitudes and beliefs take place in the center of this approach (Devos, 2014).

Early literature on tax morale dates back to the 1960s and 1970s. The important findings which were obtained as a result of the studies of Günter Schmölders and the scientists gathered around him about financial psychology within the body of Köln Tax Psychology School can be regarded as milestones of the relevant literature (Torgler, 2003a). Tax Psychology School emphasizes that economic facts should not be analyzed in view of a neoclassical perspective. The primary goal of the scholars in this school is to build a bridge between social psychology and economics. Particularly, they see the concept of tax morale as the indispensable and integral part of tax compliance (Alm & Torgler, 2006). According to this concept the more positive the individual's opinion about paying taxes and cooperating with the tax office is, the higher the voluntarily tax compliance level will be.

In this sense, within the framework of fiscal psychology models developed in the relevant context, attention was drawn to a negative relation between tax compliance and auditing and also to the positive relation between tax compliance and cooperation (Devos, 2014). In the 1990s, attention was focused on the alternating compliance determinants. Among these determinants, the equation of an exchange variable comes forward. According to researchers, this variable indicates that taxpayers evaluate how many public services are received in return for taxes. Alm et al. (1992a), additionally, tested how tax compliance can be shaped in the absence of public goods and services and concluded that tax compliance level of taxpayers increased as the advantage taken from public goods and services increased.

There were many empirical studies examining the correlation between the perceptions of taxpayers and tax evasion during 1990s. However, the conclusions drawn by many studies are inconsistent with each other. It is possible to claim that the terms used to measure perspective differences, definitional problems and the multidimensional nature of the justice concept led to this distinction. Moreover, demographic factors (age, gender, marital status, education, culture and occupation etc.) also have an effect on the justice perceptions of taxpayers and for this reason, it leads to distinction among tax compliance behaviours (Devos, 2014). Individuals' fulfillment of

their tax duties in a timely and complete manner is of paramount importance in regard to the achievement of the targeted tax revenue of the state. In this context, the factors affecting tax morale as an internal motivation towards taxpaying (age, gender, education, marital status, religion, occupation, democratic belief, confidence on government\politicians\legal system\ other citizens etc.) are also of paramount importance.

4. Research Methods and Relevant Literature

In this section, we first discuss the research methods used to measure tax morale in the relevant literature, and secondly, we look at the studies which have been conducted for Turkey until now using the same data source as the current study.

4.1. Research Methods

It is possible to state that there are various research methods frequently used in the literature. Although there is no absolute consensus on these methods, it is possible to have an overall view of the dimensions of the shadow economy, tax evasion, tax compliance and tax morale through them (Torgler & Schaltegger, 2006). According to Feld et al. (2007), it is possible to examine these methods, directly or indirectly, under two titles. Income gaps approach, monetary approaches (the approaches of interactions and money demand), electric consumption approach, and the latent variable approach (MMIC Model) can all be included in the list of indirect methods. Data gathered by the tax administration and survey practices take place in the direct methods. It is possible to affirm that researchers generally prefer direct methods in their tax compliance research.

Data obtained as a result of usual auditing processes are used in researching tax compliance, tax evasion and tax morale by many scholars. In the literature, the majority of studies conducted to measure tax compliance and tax evasion are realized thanks to data gathered by various institutions in the US based on data obtained by the administration.

Survey practices come forward as a popular option among the indirect methods. Through these methods, it is possible to reveal taxpayers' attitudes concerning declaring of tax and to scrutinize the tendency over tax non-compliance (Torgler & Schaltegger, 2006). The surveys, which try to explain individuals' views about the tax system, apply to a very small part of the population. In these practices, the random sampling option is not usually preferred (Pyle, 1991).

The basic advantage of survey practices is that it becomes possible to analyze socioeconomic, demographic and behavioural elements more widely. This variety means that questionnaires are a convenient tool to research and test new hypotheses. In addition, surveys allow researchers to compare samples of different countries and examine changes over time. (Torgler & Schaltegger, 2006). In this regard, it is also possible to say that a well-designed survey provides an opportunity to reach different groups of people from different areas in a fast and low cost way (Büyüköztürk, 2005). The data gathered from the surveys are well able to be analyzed using developed statistical methods.

We can observe two types of research in tax morale used predominantly in such research. The first of these survey types is the national/regional/local and restrainted sampling type, while the second type consists of global scaled surveys. The universal features of globally scaled surveys and their represantation of main body enable them to perform a more detailed analysis and for this reason, they are frequently preferred by researchers. WVS, being a global scaled survey practice, will be used within the scope of this study. Thus, this study attempts to analyze the evolution experienced in the historical process within the frame of a representative sampling.

WVS Association is a global organization that investigates the effects of changing values on social and political life. WVS was initially designed for testing hypothesis over basic values and motivations of economical and technological developments in industrialized countries. The instruments of assessment and evaluation developed by Inglehart (1977) are another remarkable component of the survey. WVS is the largest non-commercial and international time series analysis ever conducted on people's beliefs and values. The association realized six different waves of survey practice between 1981 and 2004. Although the survey has a fixed main theme, various updates were added due to time and spatial changes. Therefore, both the applicability of the survey and its compatibility with the spirit of the time have been enhanced.

In this context, the following section of this paper looks at related studies in the literature using WVS in order to research tax morale in Turkey.

4.2. Literature Review for Turkey

In various studies on tax morale carried out for Turkey, surveys have mainly been used. The majority of these kinds of surveys are carried out at national/regional/local level with a limited sample. However, in addition to these analyses, there is a limited number of research evaluating Turkey via universal surveys. In this section , we will only present Turkish analyses using WVS as a basic database.

In the literature, there are six studies analyzing tax morale and the factors affecting it through WVS data for Turkey. In the all of these studies only one wave of WVS has been exploited.

Table 1: Tax Morale Studies Carried Out by WVS in Turkey

Author	Year	WVS Wave (Year)	Method
Gökbunar et al	**2007**	**EVS (2001)**	**Probit Model**
Tekeli	2011	Fifth Wave (2007)	Ordered-Probit Model
Kaynar-Bilgin	2011	Fifth Wave (2007)	Ordered-Probit Model
Çevik	2012	Fifth Wave (2007)	Variance Analysis
Bilgin	2014	Fifth Wave (2007)	Ordered-Probit Model
Bilgin ve Kaynar-Bilgin	2014	Fifth Wave (2007)	Ordered-Probit Model

Gökbunar, Selim and Yanıkkaya (2007) examined the elements affecting tax morale in Turkey using the European Values Study (EVS), the former version of WVS, in their studies. The Probit model was used in the study. As a result of the study, the authors concluded that tax morale levels increased as age, religiosity and level of commitment to democracy increased. Moreover, it was determined that, when compared to women, men had lower levels of tax morale. Similarly, self-employed people had lower levels of tax morale compared to other working groups. Furthermore, education, marital status, economical status and confidence in other individuals did not have any impact on tax morale level. Besides, there was no positive impact between national pride and tax morale level. Finally, they concluded that there was a negative relation (contrary to expectations) between confidence in courts and the legal system as a whole and tax morale.

Tekeli (2011) used the fifth wave of WVS to make a comparative analysis of the elements affecting tax morale in Turkey and Japan. The author, in his study, used an ordered probit model. At the end of the study, while positive relations between trust, national pride and religiosity and tax morale were determined, negative relations were observed between democracy, awareness variables and tax morale. Furthermore, there was no identification of any significant relation between

ideology, happiness, income, education and marital status and tax morale. There was no significant distinction between the tax morale levels of men and women. Moreover, it was also concluded that unemployed people and housewives (compared with referred groups) had the lowest tax morale. In addition, although it was not indicative of a very strong relationship statistically, it was determined that the level of tax morality increases as people get older.

Kaynar-Bilgin (2011), in her study[1],used the fifth wave of WVS in order to determine the elements shaping tax morale in Turkey and also make a relevant analysis between tax morale and these elements. She used an ordered probit model in the study. Her study concluded that age, gender, marital status, economical status, income level, business sector and space variables were not sufficient indicators affecting tax morale level. On the other hand, there was a positive relation between religiosity, national pride, confidence in government and public institutions and tax morale level.

Çevik (2012), in his study, took advantage of data gathered within the scope of WVS's fifth wave to analyze the individual's interaction with state and society, individual value judgment and the effects of norms over tax morale in Turkey. Difference tests were applied by subjecting these data to variance analysis. At the end of the study, the author identified a positive relation between individuals' inclusion into political decision-making, confidence level on state and tax morale levels. In addition, there was a relation between individuals' expectations from state, social capital factor and tax morale while there was no significant relation between economic situations and tax morale level. It was concluded that elements like opinions of other individuals, egoism\altruism and religiosity had an effect on tax morale.

Bilgin (2014), in his study, used the fifth wave of WVS data to analyze tax morale elements in Turkey and Spain and compare these two states in terms of tax morale dynamics. At the end of the study, using the probit model as his method, it was observed that the importance of religion, politics, the confidence on the justice system, state, religiosity, national proud and private sector employment variables had a statistically significant and positive impact on tax morale. In addition, age, gender, being self-employed employee/retired, income level and financial satisfaction factors did not play a determinant role on tax morale level.

Bilgin and Kaynar-Bilgin (2014), in their studies, analyzed the determinant factors on tax morale in Turkey and the European Union. In their analyses, they used the data within the scope of the fifth wave of WVS. As a result of the study, using an ordered probit model, the researches identified that the variables under the title of social capital were the most influential factors over tax morale. In addition, they concluded that the variables of age, gender, marital status, material possession, business sector and field, income level and education level were not determinant factors over tax morale. It was observed that unemployment reduced the tax morale level.

5. Practice

Turkey got involved in WVS research in the second wave. WVS practice in Turkey was realized by a team under the leadership of Prof. Dr. Yılmaz Esmer. The recent data belonging to Turkey is from the sixth wave, the latest version, of WVS. Information about the years in which various waves of WVS were implemented in Turkey and attendant numbers of this practice are given in Table 2.

1 This paper is derived from master thesis of the author.

Table 2: World Values Survey in Turkey

Wave No	In Turkey	Attendant Numbers
2	1990	1030
3	1996	1907
4	2001	3401
5	2007	1346
6	2012	1605

In this study, the data for analysing the tax morale variable that will be used as the dependent variable for Turkey is only available in the survey's 2nd, 5th and 6th waves. For this reason, only data of 1990, 2007 and 2012 will be used in regressions for intertemporal tests.

5.1. Method and Variables

5.1.1. Dependent Variable

Tax morale is the dependant variable in this study. The question asked of respondents to measure tax morale within the scope of WVS was as follows:

'Now I will read some opinions and types of behaviour to you.

"Tax evasion when it is possible."

To what extent you find it right/reasonable or wrong/unreasonable? If you find it wrong/unreasonable, choose 1 in the scale; however if you find it right/unreasonable, choose 10 in the scale. Or choose any point.'

In line with the general trend in the literature, the scale was inverted, narrowed and recoded. First of all, this 10-tier unique scale was reduced to 4-tier due to the limited answers a of 4-10 tier[2]. In addition, the scale is reversed; therefore, the small numbers represent a low tax morale, whereas high numbers represent a high tax morale. In the last analysis, while 0 answer represents absolute right/reasonable (low tax morale), 3 represents absolute wrong/unreasonable (high tax morale) in this new 4-tier scale (0, 1, 2, 3) within the range of 0-3.

5.1.2. Independent Variables

Various independent variables are used so as to research different model specifications in the study. In this regard, many similar studies are examined and agreed variables included into the analysis [3]. In addition, some variables are used in the analysis in order to create a unique contribution that is not used before in the literature and perceived as important for the Turkey example. In this context, it is possible to sort out independent variable analyses in the study as demographic factors (gender, age, marital status), economic factors (employment situation, income level), institutional factors (confidence in the parliament/bureacracy/government/people), satisfaction factors (life satisfaction/material possession) and various factors (year, political view, national pride, religiosity, state responsibility, capital accumulation). The definition, scales and descriptive statistics are given in Table 3.

2 In this context, the reason behind the aggregation of the answers within the range of 4-10 under a sole value is the lack of variance.

3 In this regard, while selecting, basic factors are determined as: the inclusion of all said three waves into the analysis of WVS's Turkey leg, the answers out of evaluation should not be at the level of affecting the health/quality of estimation and the scale should follow a route in parallel with waves.

Table 3: Descriptive Statistics (Attendants' share as %)

Variable Name		1990	2007	2012	Integrated
Gender	Men	49.71	50.22	48.60	49.43
	Women	50.29	49.78	51.40	50.57
Age	15-24	24.71	20.65	18.13	20.68
	25-34	27.15	31.80	28.47	29.26
	35-44	20.90	21.77	22.37	21.79
	45+	27.25	25.78	31.03	28.28
Marital Status	Married & Living together as a couple	71.69	66.34	65.67	67.45
	Divorced & Married but living apart &Widower	5.54	4.16	7.23	5.76
	Single	22.76	29.49	27.10	26.79
Employment Situation	Wage earner and full-time	21.95	22.88	26.73	24.20
	Wage earner and part-time	5.46	2.75	6.23	4.85
	Self-employed	14.50	13.45	8.47	11.70
	Retired	5.66	9.44	10.84	9.04
	Housewife	34.36	34.32	33.77	34.11
	Student	5.66	8.84	8.72	7.98
	Job seeker	9.33	6.09	4.80	6.39
	Other	3.08	2.23	0.44	1.72
Income Level	1 (the lowest)	3.67	21.76	1.91	9.08
	2	5.76	26.38	2.86	11.57
	3	24.13	14.10	8.15	14.29
	4	36.15	14.86	14.77	20.32
	5	19.86	3.56	19.22	14.09
	6	8.04	7.51	16.93	11.44
	7	1.19	1.52	17.63	7.93
	8+ (the highest)	1.19	10.31	18.52	11.27
Confidence on the Parliament/ National Assembly	Never trust	17.97	15.96	15.23	16.18
	Not trust	24.26	24.02	30.20	26.59
	Trust a little	30.15	38.58	37.91	36.13
	Totally trust	27.61	21.44	16.66	21.10
Confidence Level on Statesmen/ Bureaucrats	Never trust	13.65	15.98	12.01	13.77
	Not trust	36.35	28.55	28.88	30.73
	Trust a little	30.28	45.07	44.78	41.08
	Totally trust	19.72	10.40	14.34	14.42
Confidence Level on Ankara Government	Never trust	23.57	15.72	16.43	17.90
	Not trust	27.20	21.55	25.64	24.60
	Trust a little	31.06	35.81	34.34	34.06
	Totally trust	18.17	26.92	23.59	23.44
Confidence Level on Courts	Never trust	10.82	8.59	11.62	10.39
	Not trust	25.52	16.43	19.96	20.21
	Trust a little	35.55	38.71	39.79	38.32
	Totally trust	28.10	36.27	28.63	31.08
Confidence Level on People	Many of them are reliable	9.98	4.78	12.43	9.14
	It should be very careful	90.02	95.22	87.57	90.86
Importance of Politics	Never important	38.49	31.77	18.18	28.00
	Not important	34.03	30.43	33.08	32.42
	Less important	16.17	24.61	31.95	25.41
	Very important	11.31	13.20	16.79	14.17
Importance of Religion	Never important	5.21	2.75	3.19	3.56
	Not important	10.61	5.80	4.38	6.46
	Less important	22.99	16.44	26.56	22.21
	Very important	61.20	75.00	65.88	67.77

Table 3: Descriptive Statistics (Attendants' share as %)

Variable Name		1990	2007	2012	Integrated
Life Satisfaction Level	1 (the lowest)	5.65	3.05	2.06	3.32
	2	1.27	1.34	1.56	1.41
	3	4.38	3.42	2.44	3.27
	4	4.97	2.67	3.44	3.57
	5	24.15	5.72	8.49	11.60
	6	11.68	9.96	10.43	10.59
	7	11.68	16.34	19.49	16.41
	8	15.38	21.62	22.80	20.48
	9	4.77	15.68	15.80	12.91
	10 (the highest)	16.07	20.21	13.49	16.43
Material Satsifaction Level	1 (the lowest)	6.55	4.25	2.97	4.33
	2	5.38	3.50	1.70	3.27
	3	8.60	5.29	5.18	6.10
	4	10.17	6.56	7.70	7.95
	5	34.41	16.63	16.67	21.25
	6	13.88	20.36	18.37	17.88
	7	8.99	20.43	18.62	16.74
	8	5.96	13.12	15.47	12.21
	9	1.37	6.41	7.64	5.60
	10 (the highest)	4.69	3.43	5.68	4.66
Political View	1 (left-wing)	4.90	7.96	5.71	6.24
	2	2.78	3.85	3.51	3.43
	3	9.47	7.00	6.88	7.58
	4	7.57	6.04	5.51	6.21
	5	40.76	13.30	14.66	20.92
	6	9.80	18.99	17.14	15.86
	7	8.69	7.44	13.70	10.36
	8	6.46	13.56	13.15	11.56
	9	2.34	6.47	8.26	6.15
	10 (right-wing)	7.24	15.40	11.49	11.68
National Pride Level	Never pride	1.39	0.71	0.86	0.95
	Not pride	6.95	3.10	2.39	3.84
	Quite pride	24.63	15.01	17.04	18.39
	Absolutely pride	67.03	81.18	79.71	76.82
Religiosity	Pious	74.55	82.06	83.43	80.68
	Not pious	24.25	17.34	15.62	18.40
	Atheist (Nonbeliever)	1.20	0.61	0.95	0.90
State Responsiblity	1 (Persons should be responsible of their own lives)	13.90	7.08	3.08	7.23
	2	4.20	4.79	3.47	4.11
	3	6.20	8.30	7.13	7.28
	4	4.60	8.37	9.31	7.78
	5	15.00	11.04	8.93	11.21
	6	5.70	11.95	12.52	10.57
	7	8.10	12.02	14.19	11.88
	8	9.80	9.97	15.22	12.04
	9	6.20	9.36	11.18	9.27
	10 (State should take more responsibility over citizens' lives)	26.30	17.12	14.96	18.63
Capital Accumulation	1 (The wealth of someone means the poverty of others)	15.29	9.73	13.22	12.60
	2	3.72	5.97	4.66	4.85
	3	5.13	10.28	10.03	8.84
	4	5.84	11.85	10.60	9.78

Table 3: Descriptive Statistics (Attendants' share as %)

Variable Name		1990	2007	2012	Integrated
	5	19.01	14.21	13.03	14.97
	6	4.93	13.27	12.32	10.72
	7	6.24	7.85	11.75	9.02
	8	7.95	7.61	13.03	9.91
	9	5.23	6.99	5.62	5.97
	10 (There is sufficient capital in the world for everybody)	26.66	12.24	5.75	13.33
Total Attendant Number		1030	1346	1605	3891

5.1.3. Ordered Probit Model

Tax morale level, used as the dependant variable in the study, is an ordinal variable having an ordered scale within the range of 0-3. For this reason, an ordinal probit model will be used for estimation, similar to many studies that research tax morale level based on survey data in the literature. Estimation equation does not have a linear form within the frame of this model. For this reason, although coefficient signs have a determinant feature, it is not possible to interpret the coefficient size. In this sense, it is proposed that applying marginal impact assessment is more reasonable than coefficient interpretations which will have a misleading qualification and also it attaches great importance to marginal effects. In this context, in the study, the marginal effecets will be calculated in order to analyze any change over control variable values which may have the highest tax morale level.

6. Results

6.1. Tax Morale Distribution

This study analyses whether there is a statistically significant differentation on the average tax morale levels of attendants involved in the three different waves before the regression stage. For this purpose, descriptive information will be given in Table 4 in relation to tax morale levels in different waves.

Table 4: Definitive Statistics for Tax Morale Level

	Average	Standard Deviation	0 respondents with % (the lowest ones in tax morale)	1 respondent with %	2 respondent with %	3 respondent with % (the highest ones in tax morale)
2. Wave	2.812193	0.6236235	3.05	2.65	4.33	89.97
5. Wave	2.713647	0.6802328	3.06	3.73	12.01	81.21
6. Wave	2.782636	0.6346048	3.31	1.69	8.43	86.57

In order to examine whether the divergences seen in Table 4 indicate a statistically significant difference, the hypothesis -the difference between the average tax morale levels of the participants involved in different waves is not significant- was tested. The analyzed histograms of tax morale level distribution and the results of Shapiro-Wilk and Shapiro-Francia test of normality point out that there is not a normal tax morale distribution in each three waves. For this reason, the Kruskal Wallis test was used, which enables a nonparametric technique for ordinal and Likert scale variables. Test statistics are calculated as $\chi2(2) = 34.806$ (prob > $\chi2 = 0.0000$). Null hypothesis is rejected since a significant difference in 0,000 level among the average tax morale level of

attendants who participated in different waves was identified. In addition, the nonparametric Wilcoxon Signed Ranks Test was also applied in order to analyze the reason behind the dual differentiations among the waves. As a result of the test, a statistically significant differentiation for 3 types of dual comparison was seen.

6.2. Empirical Findings

Over the course of time, there have been many studies analyzing the transformation of tax morale determinants in literature. However, these researches are not available in the intertemporal comparison for Turkey. For this purpose, 7 different model specifications are used to determine whether there is any significant difference between the years 1990, 2007 and 2012. Therefore, the reliability and strength of the used independent variables are tested through various models. The results of this analysis are given in Table 5.

Table 5: Intertemporal Regression Outputs

		1			2			3			4			5			6			7		
		Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect
Year	2007	-0,545348	-6.41***	-0,118937	-0,548146	-6.22***	-0,118871	-0,52472	-5.74***	-0,1170981	-0,519888	-5.57***	-0,112641	-0,485863	-5.14***	-0,1041587	-0,481453	-5.07***	-0,1022854	-0,439606	-4.58***	-0,0937184
	2012	-0,215931	-2.52**	-0,0392387	-0,228654	-2.64***	-0,0415721	-0,163984	-1.86*	-0,0301146	-0,186602	-2.05**	-0,0336666	-0,179037	-1.95*	-0,0324297	-0,208921	-2.25**	-0,038259	-0,155906	-1.66*	-0,0285406
Gender	Women	0,0361023	0.45	0,0078013	0,030916	0.39	0,0066689	0,0339993	0.40	0,0073679	0,0236308	0.27	0,0050007	0,0125172	0.14	0,0026325	-0,003148	-0.03	-0,0006635	-0,002124	-0.02	-0,0004439
Age	25-34	-0,085547	-0.91	-0,0187031	-0,093203	-0.98	-0,0203458	-0,063304	-0.63	-0,0136778	-0,041024	-0,39	-0,0086354	-0,030223	-0.28	-0,0063259	-0,031566	-0.30	-0,0066293	-0,028288	-0.26	-0,0059236
	35-44	-0,04357	-0.38	-0,0093244	-0,052209	-0.46	-0,0111625	-0,08917	-0.74	-0,0195173	-0,072706	-0,58	-0,0155545	-0,055311	-0.44	-0,0117275	-0,049167	-0.38	-0,0104187	-0,03812	-0.30	-0,008022
	45+	0,0084003	0.07	0,0017499	0,0102877	0.09	0,0021295	0,0060281	0.05	0,0012572	0,002737	0.02	0,0005632	0,0010543	0.01	0,0002171	0,0009125	0.01	0,0001885	0,0137369	0.10	0,0028155
Marital Status	Divorced & Married but lives apart &Widower	-0,068682	-0.51	-0,0148726	-0,066355	-0.49	-0,0143367	-0,078787	-0.54	-0,0170392	-0,101547	-0.68	-0,0217972	-0,107628	-0.71	-0,0230961	-0,105822	-0.69	-0,0227512	-0,110521	-0.72	-0,0236367
	Single	-0,111415	-1.24	-0,0246531	-0,10866	-1.21	-0,0239829	-0,14452	-1.55	-0,0322954	-0,123615	-1.26	-0,0268324	-0,111392	-1.12	-0,0239497	-0,106949	-1.06	-0,0230064	-0,101703	-1.00	-0,021655
Employment Situation	Wage earner and part time	-0,214792	-1.58	-0,0457806	-0,223602	-1.65*	-0,0477178	-0,227944	-1.65*	-0,0502759	-0,213459	-1.52	-0,0467595	-0,199479	-1.38	-0,0430462	-0,215132	-1.48	-0,0469974	-0,217951	-1.48	-0,046782
	Self-employed	-0,007796	-0.08	-0,0014859	-0,008992	-0.09	-0,0017099	0,0284079	0.28	0,0054823	0,0525458	0.51	0,0100105	0,0400477	0.38	0,0076143	0,045735	0.43	0,0087196	0,0587263	0.55	0,0109051
	Retired	-0,180183	-1.43	-0,0377192	-0,176346	-1.39	-0,0367231	-0,185264	-1.41	-0,0400053	-0,142273	-1.08	-0,0300688	-0,143995	-1.09	-0,030209	-0,153874	-1.16	-0,0326019	-0,191475	-1.42	-0,0405626
	Housewife	-0,184893	-1.83	-0,0388008	-0,192314	-1.90	-0,0403833	-0,167095	-1.57	-0,035753	-0,14686	-1.35	-0,0311111	-0,143087	-1.30	-0,0300046	-0,133485	-1.20	-0,0279898	-0,153882	-1.37	-0,0319875
	Student	-0,05267	-0.41	-0,0102939	-0,052234	-0.40	-0,0101749	0,0001807	0.00	0,0000354	0,0524537	0.37	0,0099934	0,0318915	0.22	0,0060909	0,0396889	0.27	0,0075921	0,0247304	0.17	0,0046787
	Job-seeker	-0,417642	-3.54***	-0,0983009	-0,405699	-3.43	-0,0946339	-0,321126	-2.62***	-0,0740647	-0,235149	-1.68*	-0,0520634	-0,233742	-1.63	-0,0513073	-0,23827	-1.65*	-0,052645	-0,246913	-1.69*	-0,0537552
	Other	-0,072403	-0.31	-0,0143051	-0,07348	-0.31***	-0,0144816	0,0341899	0.13	0,0065773	0,0489204	0.19	0,0093385	0,0412	0.16	0,0078284	0,04779	0.18	0,0091012	0,0217657	0.08	0,0041245
Income Level	2	0,1763785	1.60	0,0355925	0,1667212	1.49	0,033798	0,1927166	1.60	0,0401663	0,1863662	1.41	0,0371664	0,2180253	1.64	0,0437558	0,2254034	1.69*	0,0461976	0,2303824	1.70*	0,0459612
	3	0,1654663	1.41	0,0335853	0,1491805	1.26	0,0305236	0,1980505	1.57	0,0411645	0,1542983	1.16	0,0312997	0,2304129	1.71*	0,0459379	0,2644581	1.93*	0,0531063	0,2409623	1.75*	0,047806
	4	-0,078668	-0.75	-0,0180746	-0,088167	-0.82	-0,0203255	-0,037734	-0.33	-0,0088114	-0,064708	-0.53	-0,0146661	-0,045373	-0.37	-0,0104053	-0,027162	-0.22	-0,0063094	-0,035107	-.028	-0,0079954
	5	0,0212037	0.17	0,0046379	0,0235819	0.19	0,0051472	0,0940559	0.70	0,0206083	0,080298	0.57	0,0169293	0,096899	0.68	0,0207126	0,1141719	0.79	0,024765	0,0874499	0.60	0,0187676
	6	-0,044898	-0.37	-0,0101481	-0,031047	-0.25	-0,0069626	-0,001193	-0.01	-0,0002737	-0,041825	-0.30	-0,0093749	-0,013031	-0.09	-0,0029421	0,0137447	0.10	0,0031314	-0,018553	-0.13	-0,0041924
	7	-0,189537	-1.34	-0,0458641	-0,16963	-1.14	-0,0406205	-0,168763	-1.07	-0,0418172	-0,137757	-0.86	-0,0323241	-0,111282	-0.70	-0,0263249	-0,053893	-0.33	-0,0126753	-0,066839	-0.41	-0,0154496
	8	0,09123	0.77	0,0192535	0,1212428	0.95	0,0251732	0,1266415	0.95	0,0272992	0,086824	0.62	0,0182438	0,1050561	0.75	0,022363	0,1323301	0.94	0,0284438	0,1110085	0.79	0,0235447

Table 5: Intertemporal Regression Outputs (continued)

	1			2			3			4			5			6			7		
	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect	Coefficient	z value	Marginal effect
Confidence Level on the Parliament and National Assembly	-0,05119	-1.13	-0,0110672	-0,053907	-1.19	-0,0116336	-0,049507	-1.04	-0,0107407	-0,060396	-1.21	-0,0127902	-0,063664	-1.26	-0,0133943	-0,066506	-1.30	-0,0140166	-0,065697	-1.27	-0,0137311
Confidence Level on	-0,06883	-1.65*	-0,014881	-0,070772	-1.70*	-0,0152732	-0,097628	-2.25**	-0,0211806	-0,09333	-2.06**	-0,0197647	-0,099334	-2.17**	-0,0208989	-0,098691	-2.13**	-0,0207998	-0,102059	-2.21**	-0,0213308
Confidence Level on Ankara Government	0,1535174	3.91***	0,0331903	0,1553463	3.94***	0,033525	0,1465299	3.44***	0,0317899	0,1400659	3.19***	0,0296621	0,1437198	3.28***	0,0302373	0,1563342	3.45***	0,0329486	0,1581686	3.44***	0,0330581
Confidence Level on Courts	0,0614232	1.69 *	0,0132796	0,0586978	1.60	0,0126675	0,0692108	1.78*	0,0150154	0,0533086	1.35	0,0112893	0,0509997	1.28	0,0107299	0,0466572	1.16	0,0098333	0,0540556	1.32	0,0112979
Confidence Level on People	0,1407582	1.44	0,0304317	0,1509515	1.54	0,0325765	0,1637496	1.62	0,0355257	0,1289747	1.29	0,0273133	0,1621092	1.62	0,0341063	0,1825642	1.81*	0,0384767	0,1895832	1.86*	0,039624
Importance Level	0,0214352	0.75	0,0046343	0,0205833	0.72	0,004442	0,031883	1.06	0,0069171	0,0454358	1.44	0,0096221	0,0483225	1.51	0,0101666	0,0515084	1.60	0,0108558	0,0464013	1.42	0,0096981
Importance of Religion	0,1487613	4.22 ***	0,032162	0,1450243	4.11***	0,0312974	0,1377927	3.76***	0,0298943	0,1343596	3.47***	0,0284537	0,0991604	2.43**	0,0208624	0,0893048	2.17**	0,0188216	0,0841641	2.04**	0,0175908
Life Satisfaction Level				0,0326687	2.55**	0,0070502	0,0251874	1.85*	0,0054645	0,0209565	1.48	0,004438	0,0206713	1.44	0,0043491	0,0210975	1.45	0,0044465	0,0185502	1.26	0,0038771
Material Satisfaction Level				-0,035094	-1.70 *	-0,0075736	-0,039819	-1.86*	-0,0086389	-0,050372	-2.28**	-0,0106674	-0,047697	-2.13**	-0,010035	-0,045123	-2.03**	-0,0095099	-0,043392	-1.94*	-0,0090692
Political View							0,0169726	1.35	0,0036822	0,0072555	0.56	0,0015365	-0,001755	-0.13	-0,0003692	-0,000253	-0.02	-0,0000534	-0,005949	-0.44	-0,0012434
National Pride Level										0,1577301	2.84***	0,0334029	0,1454427	2.49**	0,0305998	0,1626241	2.73***	0,0342742	0,1534557	2.56**	0,0320731
Religiosity Not Pious													-0,174061	-2.11**	-0,0385244	-0,171953	-2.08**	-0,0380773	-0,16011	-1.92*	-0,0350146
Religiosity Atheist													-0,357573	-1.15	-0,0863395	-0,360097	-1.14	-0,0871094	-0,364263	-1.12	-0,0876273
State Responsibility																0,030283	2.95***	0,0063824	0,0367081	3.43***	0,0076722
Capital Accumulation																			0,0447702	4.28***	0,0093572
Log likelihood	-1346,5774			-1336,7312			-1210,1523			-1122,212			-1098,8366			-1084,0843			-1069,2485		
Pseudo R2	0,0381			0,0403			0,0432			0,0432			0,0437			0,0465			0,0519		

* p<0.10; **p<0.05; ***p<0.01

Notes: Marginal effect is calculated according to the highest tax morale level.

All regressions are weighted.

Referance groups: 1990, Men, 15-24, Married & cohabiting couples , Wage earner and full-time, Income Level (1), Never trust, Many people can be reliable, Never important, Not satisfied, Left-wing, Never pride, Pious, Person should be responsible of their own livings, The wealth of one person means poverty of other people.

As it is seen above, tax morale level is affected significantly in the all versions of the model. The probability of 2007 and 2012 attendants who may have a high tax morale is lower than the attendants of the year 1990. The difference, particularly for 2007, is more significant and greater than in the other years. The probability of having a high tax morale level is approximately 9.5% lower in the year 2007 and 3% lower in 2012 compared with the reference year of the most comprehensive 7.version of the model. The results are not consistent with Kruskal Wallis test and and Wilcoxon Signed Ranks test results applied before. In this context, it is possible to observe tax morale erosion in 2000s compared with 1990s. However, the data of 2012 point out that the morale erosion has lost its acuteness in relation to the year of 2007. No significant findings which increase the probability of having a high tax morale related with gender, age and marital status were observed in any of the versions. When the employment situation is examined, no significant consistency was observed in 5 versions. The probability of having a high tax morale by job-seekers is lower than wage-earners and full-time employees compared with the reference group. As these people are not income taxpayers, the value of this output is disputable. It indicates a distinction on 6th and 7th versions, which are the most complicated models of income level. While low-income individuals in groups 2 and 3 are more likely to have higher tax morale than those in group 1, which includes the poorest, this type of significant segregation does not exist for the group members of 5, 6, 7 and 8, even though this includes higher income earners. For this reason, it is not possible to refer to consistency between income level and tax morale.

The confidence in the parliament does not significantly change the probability of having a high tax morale in any version. The confidence in the courts leads to a low significant positive impact over only the 1st and 3rd versions. It could be concluded that people who say 'be very careful with other people' have a higher probability of a high tax morale in the 6th and 7th versions rather than the reference group. It can be observed that the confidence in the government increases the the high tax morale probability to a high significant level for all versions; on the contrary, as the confidence in the bureacracy increases, the probability of having a high tax morale decreases for all versions. This finding is quite remarkable. Kaynar-Bilgin (2011) reaches a similar result regarding the coefficient sign related to trust in bureaucracy (although not significant) in her study. In this regard, it is possible to assess that citizens exhibit a low tax morale since they suppose that their irregularities can be identified by the authorities. The importance attributed to politics does not create any significant impact for all versions. As the importance of religion increases, the probability of having a high tax morale increases for all versions.

The probability of having a high tax morale by people who are satisfied with their household income is lower for all versions which have a variable. It can be observed that individuals who have high life satisfaction have a higher probability of a high tax morale even if it is lower in the 2nd and 3rd versions. The increase in national pride levels increases the probability of having a high tax morale for all versions. The variable of having a high probability of tax morale for non pious attendants is lower than that for pious attendants for all versions. There is no distinction for atheist attendants.

It can be observed that attendants who believe that the state should take more responsibility for citizens' lives have higher a significant probability of a high tax morale. It is possible to conclude that citizens, thinking that the state should be more responsible for their lives, are ready to pay their taxes in return for public services. Similarly, people, who think that there is sufficient capital for everybody (that is, people who do not think that acquiring capital is not a zero-sum game), have a higher tax morale probability.

Since the two independant variables used in the study indicate unique analyzing, we researched whether these variables have any significant contribution for the estimation power of the model through a Wald test. Test output of state responsibility for the 6th version is calculated as $\chi2(1) = 8.72$ (prob > $\chi2 = 0.0032$); test output of capital accumulation for the 7th version as $\chi2(1) = 18.29$ (prob > $\chi2 = 0.0000$) and integrated test output of two variables for the 7th version as $\chi2(2) = 24.69$, prob > $\chi2 = 0.0000$). In this context, it is analyzed that both state responsibility and capital accumulation develop the estimation power of the model.

7. Conclusion

Tax losses and evasions are significant problems experienced for a long time by all economies across the world. For this reason, the public sector experiences difficulty in meeting the fund needs and encounters setbacks in presenting public goods and services. Both politicians and scientists have focused on punishment and auditing factors and have discussed how these instruments will be used so as to overcome the problems concerning taxation. However, as time has elapsed it has become clear that the deterrence-oriented approach is far from reflecting the tax compliance dynamics currently experienced. In this sense, both policymakers/implementers and academicians give more importance to the tax morale concept so as to explain available tax compliance levels and make updates concerning public sector income policies.

These developments have led to the increase of inner motivation-focused studies towards taxpaying in the literature. Many researchers have made analyses using different methods and data sources at a local, national and global level. A related tendency was also observed in Turkey and many empirical studies have been derived from direct methods. In these studies, the factors shaping tax morale in Turkey have been researched. However, it should be emphasized that these researches have been realized within the frame of restricted sampling, which does not reflect the main body. The studies examining Turkish tax morale making use of WVS, which provides a wide sample with high representation capability within the framework of a global orientation, provide a static analysis since they focus on a single wave of the survey. In this sense, it can be concluded that the analysis enabling intertemporal comparison which includes the recent wave can contribute to tax morale. Although such analyses were carried out for many countries in the literature, there is no similar analysis for Turkey.

In this study, the evolution of tax morale in Turkey within a period of 22 years is examined using WVS's 1990 (2nd wave), 2007 (5th wave) and 2012 (6th wave). The analyses were made via alternating ordinal probit models having different specifications in order to recognize each factor and observed how tax morale level has changed throughout time. It is possible to evaluate that there is a tax morale erosion in 2000s compared with 1990s. However, 2012 data indicate that tax moral erosion lost its sharpness in 2007, relatively speaking. There is a relative positive change on tax morale compared to the previous measure in the year 2012.

According to the research findings, as the level of trust and financial satisfaction increases, the probability of having a high tax morale decreases; as trust in the government, the importance of religion and the level of national pride increases, the probability of having a high tax morality increases. In addition, it is observed that those who are religious, those who think that the state should take responsibility and those who think that wealth is abundant enough for everyone are more likely to have a high tax morality.

A unique matter comes forward in the study within the context of intertemporal analysis. It is observed that the individuals thinking that the state should take more responsibility over citizens'

lives have a higher tax morale. This trend bears a strong and endurable consistency. In this regard, it is possible to evaluate that citizens, who think that the state should take more responsibility, are ready to pay their taxes in return for public services. This interpretation also reveals the shortcomings of the deterrence-oriented approach. There are many situations in which the purpose of taxpayers' non-compliance with tax is not merely to reduce their tax burden. Citizens sometimes attach more importance to the quality of the relationship developed between the public sector and the citizen in the context of social policy than the tax burden and determine their attitude towards taxes within the framework of these evaluations.

In the final analysis, if the Turkish tax administration, which wants to increase public revenues and taxpayer satisfaction, adds value to the above-mentioned patterns, this will make an important contribution to the foundation of an effective tax system. It is vital to strengthen the authority-taxpayer relation so as to promote social welfare. Taxpayers should not be described as individuals who are presumed to be delinquent; they should be accepted as the partners paying attention to social welfare. In this sense, recent attempts of revenue administration in relation to taxpayer rights are quite remarkable. In addition, the internalization of a tax conscience concept and benefit from modern technologies on behalf of information-data share can also be described as factors which strengthen administration-taxpayer relations. More sensitive public authority, politicians and members of the judiciary towards citizens' concerns about social policy expectations and justice will develop the field of tax compliance. In this context, extending tax to the bottom, reducing or eliminating of tax exemption and exceptions can be evaluated as the primary goals to establish tax equity.

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